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FILE COVERS 1907 - 3 Jan 2003 VOL 138 ISS 2  
 FILE LAST UPDATED: 2 Jan 2003 (20030102/ED)

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```
=> s protective(l)(fabric or textile)
      169721 PROTECTIVE
      186 PROTECTIVES
      169858 PROTECTIVE
            (PROTECTIVE OR PROTECTIVES)
      85457 FABRIC
      76598 FABRICS
      117808 FABRIC
            (FABRIC OR FABRICS)
      69856 TEXTILE
      75062 TEXTILES
      109549 TEXTILE
            (TEXTILE OR TEXTILES)
L1      2387 PROTECTIVE(L) (FABRIC OR TEXTILE)
```

```
=> s fill (l)yarn
      22128 FILL
      6767 FILLS
      28353 FILL
            (FILL OR FILLS)
      22963 YARN
      19976 YARNS
      32137 YARN
            (YARN OR YARNS)
L2      149 FILL (L) YARN
```

```
=> s warp (l)yarn
      6837 WARP
      724 WARPS
      7266 WARP
            (WARP OR WARPS)
      22963 YARN
```

```

19976 YARNS
32137 YARN
      (YARN OR YARNS)
L3    2527 WARP (L) YARN

=> s staple (1) (fiber or fibre)
      7114 STAPLE
      473 STAPLES
      7471 STAPLE
      (STAPLE OR STAPLES)
      430865 FIBER
      453210 FIBERS
      590605 FIBER
      (FIBER OR FIBERS)
      2248 FIBRE
      1515 FIBRES
      3630 FIBRE
      (FIBRE OR FIBRES)
L4    5359 STAPLE (L) (FIBER OR FIBRE)

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=> d hi
'HI' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

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The following are valid formats:

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ABS ----- GI and AB
ALL ----- BIB, AB, IND, RE
APPS ----- AI, PRAI
BIB ----- AN, plus Bibliographic Data and PI table (default)
CAN ----- List of CA abstract numbers without answer numbers
CBIB ----- AN, plus Compressed Bibliographic Data
DALL ----- ALL, delimited (end of each field identified)
DMAX ----- MAX, delimited for post-processing
FAM ----- AN, PI and PRAI in table, plus Patent Family data
FBIB ----- AN, BIB, plus Patent FAM
IND ----- Indexing data
IPC ----- International Patent Classifications
MAX ----- ALL, plus Patent FAM, RE
PATS ----- PI, SO
SAM ----- CC, SX, TI, ST, IT
SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;
      SCAN must be entered on the same line as the DISPLAY,
      e.g., D SCAN or DISPLAY SCAN)
STD ----- BIB, IPC, and NCL

IABS ----- ABS, indented with text labels
IALL ----- ALL, indented with text labels
IBIB ----- BIB, indented with text labels
IMAX ----- MAX, indented with text labels
ISTD ----- STD, indented with text labels

OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations
SIBIB ----- IBIB, no citations

HIT ----- Fields containing hit terms
HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)
      containing hit terms
HITRN ----- HIT RN and its text modification
HITSTR ----- HIT RN, its text modification, its CA index name, and
      its structure diagram
HITSEQ ----- HIT RN, its text modification, its CA index name, its

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structure diagram, plus NTE and SEQ fields  
 FHITSTR ----- First HIT RN, its text modification, its CA index name, and  
 its structure diagram  
 FHITSEQ ----- First HIT RN, its text modification, its CA index name, its  
 structure diagram, plus NTE and SEQ fields  
 KWIC ----- Hit term plus 20 words on either side  
 OCC ----- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field  
 codes. For a list of the display field codes, enter HELP DFIELDS at  
 an arrow prompt (=>). Examples of formats include: TI; TI,AU; BIB,ST;  
 TI,IND; TI,SO. You may specify the format fields in any order and the  
 information will be displayed in the same order as the format  
 specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR,  
 FHITSTR, HITSEQ, FHITSEQ, KWIC, and OCC) may be used with DISPLAY ACC  
 to view a specified Accession Number.  
 ENTER DISPLAY FORMAT (BIB):end

=> d his

(FILE 'HOME' ENTERED AT 15:27:55 ON 03 JAN 2003)

FILE 'CAPLUS' ENTERED AT 15:28:27 ON 03 JAN 2003

L1 2387 S PROTECTIVE(L) (FABRIC OR TEXTILE)  
 L2 149 S FILL (L) YARN  
 L3 2527 S WARP (L) YARN  
 L4 5359 S STAPLE (L) (FIBER OR FIBRE)

=> s l1 and l2 and l3 and l4

L5 0 L1 AND L2 AND L3 AND L4

=> s l2 and l3 and l4

L6 4 L2 AND L3 AND L4

=> s interwoven (l) fill(l) yarns(l)warp(l)yarns

885 INTERWOVEN  
 22128 FILL  
 6767 FILLS  
 28353 FILL  
 (FILL OR FILLS)  
 19976 YARNS  
 6837 WARP  
 724 WARPS  
 7266 WARP  
 (WARP OR WARPS)  
 19976 YARNS

L7 2 INTERWOVEN (L) FILL(L) YARNS(L)WARP(L)YARNS

=> d l7 1-2 bib,abs

L7 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS  
 AN 2001:892203 CAPLUS  
 TI Woven sleeve with integral monofilament fasteners  
 IN Winters, Danny E.  
 PA Federal-Mogul Systems Protection Group, Inc., USA  
 SO U.S., 7 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----

PI US 6328080 B1 20011211 US 2000-671430 20000927  
PRAI US 2000-671430 20000927

AB A woven sleeve is used for bundling elongated substrates. The illustrative embodiment is **interwoven** of monofilament **warp** members and **fill yarns** comprised of compliant material such as bulky multifilament yarn. Supplement monofilaments extending lengthwise of the fabric are separated into individual pieces, each including a section cradled in the compliant material of a **fill** yarn and are locked in the cradle position by at least one of the **warp** members. End sections of the individual pieces project outwardly and terminate in hooks which interlock with an exposed section of the compliant material to effect closure of the sleeve around the elongated substrates. A sleeve of the type described may also be provide with integral hooks to attach the sleeve to loop-type other loop material on a support surface.

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS

AN 1992:179625 CAPLUS

DN 116:179625

TI Microstructure of cloth-reinforced carbon-carbon laminates

AU Jortner, Julius

CS Jortner Res. and Eng., Inc., Costa Mesa, CA, 92628-2825, USA

SO Carbon (1992), 30(2), 153-63

CODEN: CRBNAH; ISSN: 0008-6223

DT Journal

LA English

AB Fiber-bundle orientations and microcracking in cloth-reinforced C-C laminates are described, with emphasis on the development of these features during composite fabrication. Microscope examns. of plain-weave cloth and of laminates made from the cloth showed that the **interwoven yarns** undergo complex distortions of shape during fabrication of laminates; various nesting possibilities are noted. Differences, attributed to details of the weave, were obsd. between the responses of **fill-yarn** and **warp-yarn** crimp angles to laminate compaction. Development of microcracks, which traversed fiber bundles in C-C laminates, was studied during the 1st carbonization heating of a phenolic-resin matrix in plain-weave and satin-weave laminates. The statistical nature of microstructural descriptors, like crimp angles and microcrack spacings, is emphasized. Further quant. studies of fiber orientation and microcracking are recommended as relevant to improved understanding of the processing and the thermomech. behavior of cloth-reinforced C-C laminates.

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L1 2387 S PROTECTIVE(L) (FABRIC OR TEXTILE)

L2 149 S FILL (L) YARN

L3 2527 S WARP (L) YARN

L4 5359 S STAPLE (L) (FIBER OR FIBRE)

L5 0 S L1 AND L2 AND L3 AND L4

L6 4 S L2 AND L3 AND L4

L7 2 S INTERWOVEN (L) FILL(L) YARNS(L) WARP(L) YARNS

=> d 16 1-4 bib,abs

L6 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS

AN 1996:588566 CAPLUS

DN 125:224457

TI High-bulk polyester fabrics and their manufacture  
IN Nishida, Ikuharu; Kashima, Tadaaki  
PA Toyo Boseki, Japan  
SO Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08170246	A2	19960702	JP 1994-313532	19941216
PRAI	JP 1994-313532		19941216		

AB The title fabrics with bulk 1.5-10.0 cm<sup>3</sup>/g and drape coeff. 30-65 contain flat polyester **staple fibers** having flatness 4.0-10.0 and round or triangular polyester **fibers** as **warp yarns** or/and **fill yarns**.

L6 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS  
AN 1983:455036 CAPLUS  
DN 99:55036

TI Tearable textiles for covering tapes  
PA Teijin Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 58013681	A2	19830126	JP 1981-112261	19810720
	JP 62014199	B4	19870401		
PRAI	JP 1981-112261		19810720		

AB A textile having tear strength .ltoreq.500 g and single **yarn** strength (s) .ltoreq.2 g/denier is prepd. by weaving 5-sulfoisophthalate salt copolymer polyester **fiber** (s .gtoreq.2) at least as the **warp**, and treating with 120.degree. water at pH .ltoreq.3.5. The textile is useful for tearable covering tapes. Thus, a **warp** was prepd. by spinning sodium 3,5-dicarboxybenzenesulfonate-ethylene glycol-terephthalic acid copolymer (I) [25822-53-1] (intrinsic viscosity [.eta.] in o-ClC<sub>6</sub>H<sub>4</sub>OH at 35.degree. 0.50, 2.3 mol % salt) melted at 310.degree. through 300 0.3-mm-diam. orifices to give a tow, which was stretched in 70.degree. water, crimped, and cut into 1.5-denier **staple fibers**. A filling (150 denier/48 filaments) was prepd. by stretching (4:1) 600-denier **yarn** from poly(ethylene terephthalate) ([.eta.] 0.64) contg. 0.3% TiO<sub>2</sub>, and flat-woven with the **warp** to give a textile (**warp** 97/in., **fill** 56/in, 120 g/m<sup>2</sup>). The textile was washed, heat-set at 180.degree., and treated 60 min with 130.degree. water (pH 3.5), after which it tore easily by hand, whereas the same textile could not be torn easily when it was treated at 115.degree..

L6 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS  
AN 1967:11776 CAPLUS  
DN 66:11776  
TI Synthetic paper yarn  
IN Howell, James D.  
PA du Pont de Nemours, E. I., and Co.  
SO U.S., 4 pp.  
CODEN: USXXAM

DT Patent  
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI US 3282038 19661101 US 19620502  
 AB Twisted paper **yarns** useful in apparel are prepd. by forming a lightweight paper of **fibers** and synthetic-**fiber staples**, prepg. a waterleaf of the fibrids and **staple** to form a bond, cutting the paper into strips, and twisting into **yarn**. Thus, a 10% soln. in HCONMe2 of 80:20 ethylene terephthalate-ethylene isophthalate copolymer was injected at 90.degree. through a nozzle with inside diam. 0.25 in. at 100 cc./min. into a 2-gallon baffled tank. The fibrids produced after stirring were filtered, washed, and blended with 0.25-in., 1.5-denier poly(ethylene terephthalate) **fibers** to give 70:30 **fiber**-fibrid slurry. A paper is produced from the slurry on an inclined-wire papermaking machine. After being subjected to a 220.degree. fusion temp. 1 min. on a textile pin tenter frame, the fused paper was slit into 0.25-in. strips with denier 986, tenacity 0.34 g./denier, elongation 17.9%, and initial modulus 9.2 g./denier. A strip twisted to give 20.6 turns/in. Z twist had a denier 1111, tenacity 0.548, elongation 19.1%, and initial modulus 11.0. A plain-weave fabric having 28 ends/in. in the **warp** and 22 ends/in. in the **fill** was subjected to a fulling treatment. A soft, pleasant, cashmere-like hand was produced in the fabric, which was suitable for use in apparel. A similar **fiber** paper was prepd. by using nylon 66 **fibers** and 20:80 nylon 66-polycapraamide copolymer fibrids.

L6 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS  
 AN 1966:466089 CAPLUS  
 DN 65:66089  
 OREF 65:12342f-h  
 TI Low-pilling poly(ethylene terephthalate)-cotton fabrics  
 IN Schoeneberg, Werner A. P.  
 PA Celanese Corp. of America  
 SO 21 pp.  
 DT Patent  
 LA Unavailable  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	BE 664663		19651129	BE	
	NL 6506880			NL	
PRAI	US		19640601		
AB	Low pilling propensity and high cover in poly(ethylene terephthalate)-cotton blend fabrics results from the use of high-shrinkage polyester <b>staple</b> . Heat-setting the fabrics under tension at 177-218.degree. causes the polyester <b>fibers</b> to migrate to the center of the <b>yarns</b> . Removal of <b>fiber</b> ends by singeing, brushing, and optional resin treatment are the finishing steps. Dyeing operations should be done before fabric heat-setting. For example, a 65:35 poly(ethylene terephthalate)-Pima cotton flannel (polyester <b>staple</b> length 3.81 cm., denier 1.5; 26/1 <b>yarn</b> , 7.8 S twist/cm., <b>warp</b> ends 29.6/cm., <b>fill</b> ends 28/cm.) was scoured and dyed with disperse and direct dyes, dried at 121.degree., and given a heat setting at 216.degree./20 sec. (Famatex), retaining its length before dyeing. The fabric was then singed and a resin finish was applied (60 g./l. dimethylolhydroxyethyleneurea (Permafresh LF)); 12 g./l. acid Catalyst W; 15 g./l. polyethylene emulsion (Moropol 700); and 4 g./l. dicyandiamide (Buffer DCY). Drying to 5% moisture content at 121.degree., brushing, resin polymerization for 4 min. at 157.degree., and deglossing gave the finished fabric.				

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L1 2387 S PROTECTIVE(L) (FABRIC OR TEXTILE)  
 L2 149 S FILL (L) YARN  
 L3 2527 S WARP (L) YARN  
 L4 5359 S STAPLE (L) (FIBER OR FIBRE)  
 L5 0 S L1 AND L2 AND L3 AND L4  
 L6 4 S L2 AND L3 AND L4  
 L7 2 S INTERWOVEN (L) FILL(L) YARNS(L) WARP(L) YARNS

=> s l1 and l2 and l3  
 L8 2 L1 AND L2 AND L3

=> d l8 1-2 bib,abs

L8 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS  
 AN 1997:283698 CAPLUS  
 DN 126:265124  
 TI Coated airbag fabric and manufacture thereof  
 IN Parker, Henry; Riddle, Dennis L.  
 PA Milliken Research Corp., USA  
 SO Eur. Pat. Appl., 11 pp.  
 CODEN: EPXXDW

DT Patent  
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 761868	A2	19970312	EP 1996-306161	19960823
	EP 761868	A3	19981007		
	R: BE, DE, ES, FR, GB, IT, NL, SE				
	US 5928721	A	19990727	US 1997-922805	19970903
PRAI	US 1995-3295P	P	19950906		
	US 1996-601303	B3	19960216		

AB A woven fabric having a m.p. .gtoreq.70 higher than that of a thermoplastic powder coating is coated with the thermoplastic powder to .ltoreq.1 oz/yd2 and heat-fused at .gtoreq.150.degree. to form a light, fused coating having air permeability .ltoreq.1 ft3/min/ft2 fabric at 0.5 in. of water and flexibility (10-mm gap, Handle-O-Meter) .ltoreq.800 g. Thus, an airbag fabric from 420 denier nylon **yarn** woven in a plain weave structure was sprinkled liberally on one face with Griltex 6P polyester, drawn with a rubber blade, and heated in an oven for 60 s at 160.degree. to give a fabric having wt. 5.93 oz/yd2, air permeability 0.4 cfm/ft2 at 0.5 in. water, Mullen burst strength 762 psi, and tensile strength 484 lb (**warp**) and 510 (**fill**).

L8 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS  
 AN 1971:113110 CAPLUS  
 DN 74:113110  
 TI **Fabrics** for personal **protective** clothing  
 AU Nakov, Lyuben; Enev, Stoiko; Shikov, Stoyan  
 CS Bulg.  
 SO Tekstilna Promishlenost (Sofia) (1970), 19(8), 11-16  
 CODEN: TEPSAS; ISSN: 0495-0046

DT Journal  
 LA Bulgarian

AB After 100% polyester **yarn** (Yambolen) and 100% polyacrylonitrile **yarn** (Bulana) had been treated for 8 hr at 20-70.degree. range with NaOH (0-90%), H2SO4 (0-90%), HCl (0-30%), HNO3 (0-60%), H3PO4 (0-100%), AcOH (0-80%), and HCOOH (0-100%), the decrease in the tensile strength of the **yarn** was detd. Neither of the 2 kinds of fiber underwent any changes after being kept for 8 hr at room temp. in H2O2 with 3.4 kg/m3 active O, a NaOCl soln. contg. 9.5 kg/m3 active Cl, acetone, Et2O, perchloroethylene, PhNO2, or CHCl3. The polyester fibers were more resistant to acids and the polyacrylonitrile fibers to alkalies. **Fabrics** for **protective** clothing to be used under

conditions of light exposure to acids and alkalies were woven from 25 .times. 2 tex fibers-100% polyester, 100% polyacrylonitrile, or a mixt. of polyester (**warp**) and polyacrylonitrile (**fill**). They were waterproofed by treatment with Veritol M (50 kg/m3) and 60% AcOH (1 kg/m3). **Fabrics** for **protective** clothing to be used under conditions of medium heavy exposure to acids and alkalies and of medium heavy or light exposure to oils were woven of the same fibers (tex 34 .times. 2) and treated with Oleophobol P-68 (40 kg/m3), Impregit OLS (35 kg/m3), Efin PBO (60 kg/m3), and 60% AcOH (2 kg/m3). The **fabrics** woven from a mixt. of polyester and polyacrylonitrile fibers were suitable for protection against both acids and alkalies. Testing of the **fabrics** showed that they were superior to those of wool and cotton used hitherto for **protective** clothing. **Fabrics** treated with fluorocarbon polymers gave good protection against acids, alkalies, H2O, and oil, while those treated with ordinary waterproofing materials did not protect sufficiently against oil.

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L1 2387 S PROTECTIVE(L) (FABRIC OR TEXTILE)  
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 L3 2527 S WARP (L) YARN  
 L4 5359 S STAPLE (L) (FIBER OR FIBRE)  
 L5 0 S L1 AND L2 AND L3 AND L4  
 L6 4 S L2 AND L3 AND L4  
 L7 2 S INTERWOVEN (L) FILL(L) YARNS(L) WARP(L) YARNS  
 L8 2 S L1 AND L2 AND L3

=> s antiballistic or anti puncture or antipenetration

29 ANTIBALLISTIC  
 289771 ANTI  
 7 ANTIS  
 289777 ANTI  
 (ANTI OR ANTIS)  
 4437 PUNCTURE  
 525 PUNCTURES  
 4835 PUNCTURE  
 (PUNCTURE OR PUNCTURES)  
 0 ANTI PUNCTURE  
 (ANTI (W) PUNCTURE)  
 9 ANTIPENETRATION  
 L9 38 ANTIBALLISTIC OR ANTI PUNCTURE OR ANTIPENETRATION

=> s l1 and l9

L10 4 L1 AND L9

=> d l10 1-4 bib,abs

L10 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS  
 AN 2000:701898 CAPLUS  
 DN 133:282984  
 TI **Antiballistic protective composite fabric**  
 and protection therewith  
 IN Coppage, Edward A., Jr.; Coppage, Richard W.  
 PA USA  
 SO U.S., 11 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6127291	A	20001003	US 1998-172133	19981014
PRAI	US 1997-62491P	P	19971020		

AB A composite woven fabric is made up of at least two plies of individual woven fabrics bonded together by a layer of flexible bonding resin disposed on juxtaposed surfaces of the individual woven fabrics. The bonding agent covers .gtoreq..apprx.75%, preferably 100%, of the juxtaposed individual fabric surfaces and does not exude through the interstices of the woven fabric. An **antiballistic** composite fabric is made up of at least one of these bonded woven fabrics sub-composites, preferably in combination with conventional nonwoven fabric layers. This composite product has an areal d. .ltoreq.0.95 lb/ft2, but withstands the impact of a 44 magnum projectile. It also offers excellent protection against knife and ice pick threats. This composite fabric reduces the trauma conventionally caused by the impact of a ballistic projectile, even though the projectile does not penetrate the fabric.

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS  
AN 1997:240377 CAPLUS  
DN 126:226502  
TI Clothing providing protection against stab and projectile wounds  
IN Schuster, Dieter Hans; Fels, Achim Gustav; Schuermann, Guido  
PA Akzo Nobel NV, Neth.  
SO S. African, 20 pp.  
CODEN: SFXXAB  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	ZA 9505946	A	19960221	ZA 1995-5946	19950717
	JP 10503007	T2	19980317	JP 1995-505442	19950719
PRAI	DE 1994-4426748		19940728		
	WO 1995-EP2849		19950719		

AB **Protective** clothing, in particular clothing which protects against injuries caused by stabbing instruments, cutting instruments, projectiles or splinters, and which consists of multiple layers of flat structures, characterized in that at least one side of at least one of the layers contains a ceramic coating applied by plasma spraying. Thus, a plain-weave **fabric** of 198 g/m2 basis wt. was made from aramid fibers of 930 dtex, and plasma sprayed with a 40-.mu.m film of ceramic contg. 70% Al2O3 and 30% TiO2 to give a **fabric** having the claimed protection properties.

L10 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS  
AN 1995:742617 CAPLUS  
DN 123:115265  
TI Plasma treatment of **antiballistic** materials, plasma-treated aramid and polyethylene **textiles**, **antiballistic** materials and **protective** clothing from  
IN Reiner, Andreas; Schuster, Dieter Hans Peter; Fels, Achim Gustav  
PA Akzo Nobel N.V., Neth.  
SO PCT Int. Appl., 21 pp.  
CODEN: PIXXD2  
DT Patent  
LA German  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9504854	A2	19950216	WO 1994-EP2572	19940803

WO 9504854 A3 19950316  
W: CA, CN, CZ, FI, JP, NO, PL, SK, US  
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE  
IL 110454 A1 19970713 IL 1994-110454 19940726  
EP 663968 A1 19950726 EP 1994-924840 19940803  
EP 663968 B1 19961030  
JP 08502560 T2 19960319 JP 1994-506213 19940803  
PRAI DE 1993-4326555 19930807  
DE 1994-4424320 19940709  
WO 1994-EP2572 19940803  
AB A continuous or discontinuous 2-step plasma-treatment process comprises plasma treatment with .gtoreq.50% inorg. gas or a mixt. of inorg. gases and plasma treatment with a waterproofing org. gas or with mixts. with such gases as (un)satd. hydrocarbons, (un)satd. fluorocarbons, siloxanes, vinyl compds., or inorg. gases. An aramid fiber was treated in an Ar plasma followed by treatment in 80% butadiene-20% Ar plasma giving a dry V50 value (bullet speed at 50% probability of penetration) of 370 m/s and wet value of 365 m/s, compared to 345 and 361, resp., for a conventional fluoropolymer waterproofing treatment.

L10 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS  
AN 1994:220353 CAPLUS  
DN 120:220353  
TI Energy-absorbing nonwoven polyolefin textiles for use in layered **antiballistic** structures, and manufacture of the nonwovens  
IN van der Loo, Leonardus Lambertus Henricus; van der Burg, Rene Christian  
PA DSM N.V., Neth.  
SO Neth. Appl., 19 pp.  
CODEN: NAXXAN

DT Patent  
LA Dutch

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	NL 9200625	A	19931101	NL 1992-625	19920403
	JP 3169964	B2	20010528	JP 1993-517323	19930331
	IL 105246	A1	19960912	IL 1993-105246	19930401
	RU 2100498	C1	19971227	RU 1994-41684	19940930
PRAI	NL 1992-625	A	19920403		
	WO 1993-NL78	W	19930331		

AB The nonwovens are felts of substantially isotropically oriented fibers having length 40-100 mm, tensile strength .gtoreq.1.2 GPa, tensile modulus .gtoreq.40 GPa, and fineness 0.5-8 denier. The fibers consist of linear polyethylene and may be modified by corona or plasma treatment or with a filler. The felts are manufd. by folding a web of carded fibers in a zigzag fashion, calendering the resulting stacked material, stretching the web in the transport direction, and subjecting the material to stitching or hydro-entangling. These nonwovens have high impact resistance, e.g., .apprx.63 Jm2/kg, vs. .apprx.39 for prior-art nonwovens, and are esp. suitable for the manuf. of bulletproof vests.

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	67.54	67.75

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-7.81	-7.81

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